that the smallest channels or tracks in which it moves are susceptible of vital contraction.* 2. We suppose the effect of the stimulus of the air, acting on these vessels, to be the very reverse of what has been observed in every case where either this or any other stimulus has decidedly acted on a living artery; because in all such cases, and particularly in the experiments of Wedemeyer, where stimulating liquids were introduced into living arteries, and obviously caused constriction of their smaller branches, the effect was, not to promote, but to retard and impede the transmission of their contents.

If again, we suppose the effect of air on the minute arteries in the lungs to be, to cause relaxation or distension, *i. e.* to act as a sedative on them, we attribute to the air, in its action on these vessels, an effect the very reverse of that which is observed, when any other vessel is exposed to that agent; the change observed in such cases (when any change is observed) being always of the nature of tonic contraction.

The conclusion, therefore, appears to me to be nearly inevitable, that the application of air to the blood in the lungs promotes the flow of the blood there, in a manner wholly inexplicable, either by the mechanical process by which the air is applied, or by any influence which the air can exert, on the contractile power of the vessels through which the blood moves. And if this be so, I think the reasonable inference must be, that the motion of the blood through the lungs, in a living and breathing animal, is partly determined by causes which are independent of any impulse, or modification of impulse, by the solids containing the blood.

This inference will be strongly supported, if it shall appear, on farther examination, to be the fact, as seems to me nearly ascertained, that in some of the lower classes of animals and in vegetables, the mutual action of the living fluids and of the air is provided for, by movements of fluids, but independently of any muscular contractions of solids, in the respiratory organs. And I cannot help indulging so far in conjecture as to anticipate, that the important discovery of Purkinje, of the currents visible in the air passages of animals, will be found to support the same inference. For although these currents have been ascribed, both by the German and English physiologists who have observed them, to the vibratory motion of minute *ciliæ*, yet I am strongly inclined, from what I have myself observed of such currents in several other instances to believe, that the movement of the *ciliæ*, although frequently an accompaniment, and perhaps an auxiliary, is not an adequate cause of them; and that their real cause is more accurately expressed by the terms used by a recent French author, who ascribes them to a *jeu d'attraction et repulsion* between the living fluids and the air.

PATHOLOGY.

9. *On Certain Collections in the Alimentary Canal.*—It is a remarkable, though a well established fact, that solid matters sometimes become impacted in the colon, and retain their situation, even after long courses of purgative medicines; the watery evacuations passing over without dislodging the solid cake. Cases of this description often occur where they are not suspected, and they are frequently mistaken for disease of the liver, and maltreated accordingly. The following extract from a paper, by Dr. James Murray, of Dublin, contained in a recent No. (July 30, 1836) of the *Lancet*, presents some interesting examples of such collections.

"1. *Magnesia as an Intestinal Concretion.*—The first case of magnesian concretion on public record, occurred to me in 1812. A child became much distressed by tormina and tenesmus, fulness and tenderness of the abdomen, vomiting, colic pains, frequent watery evacuations, spasms, and nervous twitchings, with febrile exacerbations. Symptoms resembling those of hydrocephalus began to exhibit themselves; Mr. M'Cluney, a respectable surgeon of Belfast, was in attendance with me. After the administration of castor oil, rhubarb, and the hydrarg. cum creta, the child began to pass off large quantities of hard alvine concretions, like peas. Having submitted them to analysis, I found that they consisted of magnesia, enveloped in the mucus of the canal. By the continued use of mild aperients, and diluted mineral acids, with a few drops of laudanum, this cause of disorder was removed. The nurse had mixed magnesia for a long time in the child's food.

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* See Marshall Hall on the Circulation, pp. 40, 47, and Pl. viii.

Ten years after this, Mr. Brande published the next case on record, where a concretion of magnesia had accumulated, amounting to three pounds, and was found in the colon after death.

2. *Of Carbonaceous Deposition in the Caput Cæcum of the Colon.*—The next case of alvine concretions, published in Ireland, is that of Mary Cole, of which a short account is given in page 20 of my Essay on "Temperature and Dilution," and which I now beg leave to read: "Mary Cole (Madame Kennedy's nurse) complained of severe pain in the side and abdomen. On examination I found a dull confused fulness and swelling in the hypogastric region. This enlargement moved, and felt painful on pressure. She had been under the care of a surgeon during some months, who had ordered long-continued courses of Epsom salts, so as to keep up a discharge of watery evacuations several weeks. Notwithstanding this repeated purging, I suspected that solid fæces were impacted in some duplicature of the colon, and immediately commenced the use of the jalap soap, combined with mercurial pill. As the severe uneasiness in the swelling prevented repose and kept up continual irritability and febrile anxiety, I ordered the opium soap to be well rubbed into the abdominial tumour every night; the pain soon subsided; a week's perseverance with the new purgative began to bring away hard particles and fragments, which had evidently broken off from a larger mass; and in the end, about two quarts of a substance like broken coals had passed away, embedded in a tough matter-like clay. Instant and permanent recovery ensued."

"Three years after the appearance of my work, Mr. Ferrall—and he was the next Irish practitioner, who did so—published cases of alvine concretions. They appeared in *The Edinburgh Medical and Surgical Journal* for 1831. Dr. Smith has lately adduced others, in a separate publication. I shall now proceed to detail a few other instances of intestinal accumulations, the nuclei of which were detected after long continuance in the bowels. I omit alluding to similar concretions in the lower animals, such as those described by Voight, who gives an instance of an enormous concretion in a horse, the weight of which amounted to 13 pounds. I also avoid the consideration of biliary or hepatic concretions passing into the bowels, so many varieties of which have been described by Morgagni, Gemina, Bezold, Vater, Moriali, Coe, Peterman, Burch, Sloane, Vogel, Van Swieten, Riverius, Fernellius, and, more lately, by Hay, Monro, C. White, Rubini, Unger, Marriere, and others.

3. *A silvered Mercurial Pill, and a Tea-leaf, the Nuclei of Ileo-cæcal Concretions.*—I need not detain you by detailing the particulars of an interesting case, in which I detected a small pasty tumour in the right side of the abdomen. By long and steady perseverance, the collection was brought away, and proved to be composed of two balls. In the centre of one was a tea-leaf, and the nucleus of the other was a mercurial pill, silvered and intact. The patient (a distinguished nobleman) had not taken a single mercurial pill during five years and more. The case is reported at length in *The London Medical and Surgical Journal*, 25th January, 1834.

4. *Concretions accumulating around Fragments of Almonds.*—The following is the statement of a school-master, who suffered from this source of illness from 1806 till March 1809:—"I am not subject to nervous complaints, or much weakness of stomach, but my tongue is foul, and I have a bad taste in my mouth. I can eat, but I do so without relish, and wish for cold water frequently. I have a dull pain in the right side, much increased upon pressure; my bowels are sometimes loose, and sometimes confined. When on my back, in bed, I feel a swelling in the right side, like half a small loaf of bread. The pain has gradually become worse, and now it hurts me when I cough, laugh, take a drive on a car, or use any active motion. I have been treated for liver-complaint, gall-stones, and gravel. I repeatedly tried mercury, leeches, blisters, and long-continued purging with aloes, senna, salts, and other medicines, but all failed."

It would be tedious to continue the narrative. Suffice it to say that the use of mild alternative treatment, for about six weeks, exhibiting such aperients as promoted secretion into the canal, and combining them with gums, so as to reach the part affected before exerting their powers; by the combined use of oil of turpentine and castor oil, by nourishing diet and mild tonics; the condition of the sac improved, the conglomeration became more liquid and broken down, and at last passed away in fragments, each containing *a nucleus of half-chewed almonds*, as perfect as on the day they were swallowed, which he knew to have been nearly four years before.

5. *Concretions, the Nuclei of which were pieces of Radishes.*—In 1819, Miss D. had suffered during six years from a so-called liver-complaint. She had been mercurialized and salivated until all her teeth were removed, and her health was broken and undermined. Being consulted, I found that the tumid condition of the right side extended lower and deeper than when the liver is enlarged. The irregular state of the bowels, the scanty and offensive motions, the nausea, and the twisting pains of the intestines, with many other symptoms, indicated a mass of fæcal matter in the blind gut.

The long-continued use of tonics and frictions, a change of air, the employment of enemata, and the occasional exhibition of castor oil and turpentine emulsions, at last broke down the collection, which came away in solid cakes, composed of waxy substance, agglutinated, *in concentric circles*, around fragments of half-masticated *radishes*, which she had suddenly swallowed several years before. It is remarkable that the vegetable was as perfect as when first eaten, and the colouring matter of the rind as fresh as when the radishes were growing.

When this enormous mass was removed, the recovery was almost instantaneous; her strength and appetite returned, and all the conditions of health were speedily re-established.

6. *A Pomegranate Kernel, the Nucleus of an Alvine Concretion.*—A married lady had endured a series of distressing symptoms for many years past; pain of the right side, lassitude, depression of spirits, cardialgia, and irregularity of the bowels, with exceeding irritability of the nerves. This lady had tried every medicine and every climate in vain. Being consulted, I satisfied myself, after the most careful examination of the swelling, that it was a tumour, fixed down in the right side of the iliac region, separated from the liver, for which it had been mistaken, and from all the circumstances, that it must be contained in the cœcum. I commenced the use of restorative diet; tonic medicines, with the *hydrag. c. creta;* occasional oily emulsions, and enemata, frictions, and gentle exercise. After six weeks' patient and determined perseverance, the cohesive masses began to break up and come away, and in the centre of a hard substance, like putty, was found the nucleus, *a pomegranate kernel*, which the lady had swallowed FOURTEEN YEARS BEFORE! As in other cases, instantaneous restoration to health followed the removal of this tedious source of disorder.

7. *Kernels of Nuts, the Nuclei of Concretions.*—An admirable and excellent lady had long been tortured by colic-pains, weakness, loss of appetite, dull pain of the right side, bad taste of mouth, confusion of ideas, and head-ache. When this train of ailments had continued some time, she became a martyr to cancer of the uterus. During the treatment of that disease, a course of mild aperient medicine was administered, by which the intestinal secretions were improved, and many hard balls, as large as apples, came away, each containing in its centre a part of the kernels of nuts, which she had hastily swallowed *five years previous* to their dislodgement from the bowels. The uterine disease at last proved fatal.

Numerous other cases might be adduced where collections had formed around pips and skins of fruit, stones of grapes and cherries, and the husks of grain, meal, &c.; but I will only allude to that of a young lady, attended by Mr. Commins, Inspector-General of Army-Hospitals; Mr. Basker, of Great Britain Street, and myself. The disease presented, at first, many symptoms of chronic congestion of the head, and even of effusion into the ventricles of the brain,—head-ache, dilated pupils, lethargic apathy, hot skin, quick pulse, and constipation; there was fulness of the iliac region of the right side, with dull pain on pressure. The *pulv. hydrag. c. creta*, active purgatives, and turpentine emulsions, were resorted to. After some time, quantities of offensive matter, mingled with particles like *broken cinders*, were dislodged, and speedy recovery ensued.

I do not remember whether other writers have noticed the fact, that large accumulations in the caput cœcum occasions piles. I have observed, in many instances, that this effect seems to be produced in two ways; first by retarding the return of blood through the hæmorrhoidal veins; and secondly, by determination to the lower part of the rectum, from the extension of irritation *by continuous sympathy*.

These circumstances led me to the observation, that the congestion and pain of the cœcum itself are more effectually diminished by the repeated application of leeches to the *anus*, than by a direct abstraction of blood over the region of the part affected.

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10. *Examination of the gases contained in the cavity of the pleura of a person affected with pneumo-hydrothorax.* M. Martin Solon has analyzed the air collected from a patient who died of pneumo-hydrothorax, at the Hôpital Beaujon, 15th October, 1834. This gas had no particular smell or colour; did not inflame when an ignited body was plunged into it, but the ignited body was instantly extinguished thereby. The lime contained in lime water was precipitated by this gas, and the tincture of turnsol was reddened by it. It contained 16 per cent. of carbonic acid gas, and in other respects the results did not essentially differ from those obtained by Dr. John Davy. The analyst was satisfied by experiments that oxygen gas was absorbed, and carbonic acid disengaged. Nitrogen was also obtained. The experiments of Sir Astley Cooper also prove that healthy serous membranes absorb such gases as they come in contact with, but Mr. Solon considers it as established that such membranes do not exhale gases. From the analysis which have been mentioned, we may infer that pneumo-thorax is prejudicial to the patient, as much from the *qualities* of the gaseous collection as from its volume. The volume of substances contained in the pleura-costalis of persons affected with pneumo-thorax, may, by its weight and pressure, cause asphyxia; and Mr. Solon correctly believes that the air ought to be evacuated from the thorax, in our attempts to remove the disease, as has been fully explained in Dr. Davy's case. (*Philos. Trans.* for 1824.) Dr. Davy found the following proportionals of gases contained in the pleura-costalis of his patient: carbonic acid 12.5; nitrogen 85.5; oxygen 2; total 100. Dr. Apjon has also analyzed the gases in a similar case, and found the proportions as follows: carbonic acid 8; oxygen 10; nitrogen 82; total 100.

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11. *Bronchocele—its causes—singular case.* By W. Addison. Bronchocele is common in Worcestershire, and many cases are witnessed in the district around Malvern. In some females the diseased gland grows to a large size without producing any, or only trifling inconvenience—a little difficulty of breathing in walking up hill. Persons afflicted with this unsightly complaint are chiefly, but not universally, females; in one or two instances I have observed male children born with a decided fulness and enlargement of the thyroid gland. Very few of the common people use any remedy for it.

Bronchocele is not confined to the peasantry, a tendency to the disease often showing itself in young females in the middle and higher classes; these generally have recourse to medical treatment. Iodine given internally, and used externally in the form of ointment, usually reduces the incipient enlargement; it is, however, liable to recur.

It is very difficult to ascertain the causes producing bronchocele. Of twenty-two cases which I examined a few years ago, some lived in situations where the water was hard; others where it was soft; some lived very well, i. e. had animal food daily; others chiefly on potatoes and bacon, the ordinary food of the labouring classes. In a great majority the right lobe of the gland was the largest, and there was no appearance of scrofulous disease. In females of the same family, more than one generally had the disease. Bronchocele almost invariably increases in size, and becomes more troublesome during gestation; and, in many instances, remains, after delivery, permanently of a larger size than before. It has been supposed that the offspring of parents afflicted with this complaint, evince more or less deficiency in their intellectual endowments; in one or two of the cases alluded to above, this was the case, but not generally.

Case.—I have the details of a very singular case of this disease in an unmarried female of delicate constitution, aged 37. The gland had been enlarged for fifteen years, and various remedies tried with considerable but temporary relief.

For about two years the breathing had been more or less affected, the respiration being accompanied with a harsh, sonorous, dry râle, and short frequent cough. On the *left side* of the trachea was a firm rounded tumour, and on the *right side* was another less prominent; to the former all the distress, which was occasionally very great, was referred. Great relief was experienced, when the difficulty of breathing came on, by pushing aside the tumour from the trachea by the finger. When the finger was removed, the râle, distress, and cough returned, but, after some time, slowly went off. Through this tumour a seton was passed; leeches and cold lotions were also had recourse to, but debility and loss of appetite slowly increased; and the patient one evening being suddenly seized with difficult respiration, which nothing would relieve, died in about five hours (perfectly sensible to the last moment), apparently of suffocation.

Autopsy.—The appearances, on dissection, were highly interesting. The left portion of the thyroid, through which the seton had passed, and to which the principal attention had been directed, extended from the ramus of the clavicle; the upper edge of the right tumour commenced just below the larynx, and between the tumours the trachea was very much compressed. This tumour on the right side was found to be only the superior portion of a very much enlarged thyroid gland, which extended completely into the chest behind the first rib, and, altogether, as large as two closed fists, four-fifths of it being in the cavity of the chest. It was divided into two portions by a groove or sulcus, in which lay the arteria innominata, pushed outwards towards the clavicle. The common carotid was displaced laterally, nearly two inches from the trachea, and the subclavian artery very much elated above the clavicle and first rib. The par vagum passed over the subclavian artery, but the base of the tumour was engaged in the loop of the ramus recurrens; this loop, instead of being closely in contact with the artery, passed round the bottom of the tumour, which was, at the least, two inches and a half below; consequently, both the par vagum and the recurrent branch were very much stretched and elongated. The nervus vagus was redder than on the other side, but there did not appear any material alteration in its size; the recurrent branch, on the other hand, was smaller, and was almost dissipated in a few minute filamentous threads, which could hardly be traced to the larynx.

I forbear making any remark upon this singular and interesting case. Whether death occurred from mechanical pressure upon the trachea, or from paralysis of the recurrent nerve, or from the joint effect of the two, I do not venture to determine.—*Transactions of the Provincial Med. Association. Vol. IV.*

12. *On the chemical characters of the saliva, considered as a means of diagnosis in certain affections of the stomach.* By Dr. A. Donné.—The object of this paper is to show that, by comparing the morbid with the healthy state of the saliva, we may distinguish accurately between inflammatory and non-inflammatory affections of the stomach.

After some preliminary remarks, Dr. Donné endeavours to ascertain the characters of healthy saliva, which was the more necessary to be done, as physiologists are at variance on the subject. According to Magendie the quality of this secretion varies according to the time when the experiment is made. Before and after a meal it is acid, but during mastication alkaline, the acidity sometimes disappearing after the first mouthful of food. According to Tiedemann and Gmelin, the saliva and the mucus of the œsophagus are alkaline in every case, not only in man, but in every case where these fluids exist. M. Donné's notion is the same, for in numerous experiments instituted by him both in man and the lower animals, this fluid was always found alkaline, before, during, and after meals, when the functions of the stomach were properly performed.

Though there is not a perfect agreement between chemists in their different analyses of saliva, they generally attribute its alkalinity to the presence of alkaline lactates and hydrochlorates of soda, and from an examination of the crystals by the microscope, M. Donné is convinced that it contains also hydrochlorate of ammonia from numerous crystals of the form peculiar to this salt being easily recognised. This fact has been already pointed out by M. Raspail. In certain cases the saliva is acid, owing to a peculiar condition of the stomach, which it is M. Donné's object to show is indicated by this state of the concretion. On no occasion has he found the saliva acid when the appetite and digestion were good.

When inflammation of the mucous membrane of the stomach cannot be distinguished from its *saburral* state, by decided characters drawn from the usual symptoms, such as the colour of the tongue, its coating, thirst, pain in the epigastric region, &c. it is clear that in the present state of science there are only two ways of ascertaining the truth, by observing the effects of remedies employed, and by examining the organs after death. Upon these two, medicine may be said almost wholly to depend. In support of this view, he cites the authority of M. Andral, who in his *Clinique Medicale*, has supported this doctrine, and pointed out the difficulty of distinguishing affections of the stomach.

For ascertaining the state of the saliva, M. Donné gives the following directions. Slips of test paper are to be cut an inch and a half long, and three or four lines broad, some coloured blue by tincture of turnsol, others reddened by an acid. The former of course will detect the acidity, the latter the alkalinity of the saliva. One of these papers is to be placed on the tongue of the patient, who must retain it for some time in his mouth, taking care to moisten it. The blue paper being in general more sensible than the red, is in a second affected by the acid if it exists, while, on the contrary, it is advisable to leave the red paper in contact with the tongue for a minute or two, to produce the necessary effect. A more sensible reagent than turnsol may be employed, but the shades of difference are not then so well marked. When the saliva is in a healthy state, the red paper becomes blue, if not it is not changed. This is the first test to be tried. When the saliva is ascertained to have lost its alkaline character, it must be tested with the blue paper, when two things may occur; either the blue paper is not changed, in which case we may conclude that the saliva is neutral, or it becomes red, which marks the acidity of the secretion. In the former instance, the first degree of alteration is manifested, which commonly coincides with some derangement of the digestive functions. M. Donné has seen the saliva pass through all the degrees of acidity from the most feeble to the most decided, and those different degrees of acidity appeared to be most frequently proportioned to the degree of alteration of the stomach.

It may be necessary to observe, that simple contact with the saliva even when not acid, produces some slight alteration of shade in the blue paper referable to moisture. Every one knows that colours have not the same shade when dry as when moist, and a little experience will enable a man to distinguish this slight alteration from that produced by an acid. Besides the red paper will serve as a counter proof.

M. Donné directed his researches to determine whether the saliva alone which was in contact with the tongue was thus modified, that he might ascertain whether the acidity ought to be attributed to the thickened mucus so frequently covering the tongue, rather than to the saliva itself. By placing, however, the test papers in contact with all points of the buccal cavity, under the tongue, and on the internal parietes of the cheek, he found always that it was the saliva that was altered in the cases to which he alludes.

When the tongue of the patient is dry and covered with a black, thickened, parched coat, it is difficult to detect the characters of the saliva, which is, as it were, suppressed, or dried up by evaporation, in proportion as it reaches the mouth. In such cases, by moistening with a little water the slip of paper before placing it on the tongue, the chemical character may be ascertained from the thick and gluey covering of this organ.

By the same process, M. Donné has ascertained the state of the different fluids of the body in health and disease, but his views he reserves for a separate work, which he is preparing for publication.

In support of his doctrine, M. Donné brings forward a selection of eight cases, of which we can merely make room for a short outline. In the first case there was *bronchitis* with symptoms of severe fever, and *acidity of the saliva*. Blood-letting and emollients were tried in vain, and the patient died. On inspection, numerous ulcerations with vivid redness were found in the last portion of the small intestines; the stomach was distended with gas; the mucous membrane dotted, softened, raised like a pulpy mass on the great *cul-de-sac;* in other points the vessels were filled with a fine dark coloured injection. Although the inspection took place only twelve hours after death, a number of very animated animalcules were found in the bile. The second case was one of continued ataxic fever. *The saliva was acid.* The cerebral substance was injected, there was effusion into the ventricles, and injection and softening of the mucous membrane of the stomach to some extent. The third was one of continued fever, with delirium, stupor, *and acidity of the saliva.* Treated with blood-letting and emollients it proved fatal, and after death the glands of Peyer were found injected and ulcerated, and the mucous membrane of the stomach injected and softened. In the fourth case there was stitch in the side, shivering cough; pleurisy of the left side, pneumonia of the right; nausea suddenly supervening, vomiting, diarrhœa. The treatment was strictly antiphlogistic, and blood was repeatedly abstracted both locally and generally. After death purulent effusion was found in the left pleura; circumscribed hepatization of the superior lobe of the right lung; vivid injection of the stomach; softening and almost complete disorganization of the mucous membrane, &c. There was neither ulceration nor even marked redness in the intestines.

Besides these four cases exhibiting the coincidence of acidity of the saliva with lesion of the stomach, usually attributed to inflammation, M. Donné alludes to one of phlebitis supervening on bleeding from the arm in pneumonia. The saliva, which had remained alkaline in the first part of the disease, suddenly became extremely acid at the same time that phlebitis manifested itself, and continued so till death. The stomach was not found red, but the mucous membrane was considerably thinned and softened in the great *cul-de-sac.*

Having given four cases in which the acidity of the saliva marked disease of the stomach, M. Donné cites four in which the effects of the treatment, and the progress of the disease, were connected with the state of the saliva. Into these it would be needless to enter, the fact being the same in all; as the disease of the stomach increased, the saliva became more and more acid, and when it abated the acidity decreased, till on the disappearance of every morbid symptom the secretion became alkaline again.

To complete the proof of the truth of this doctrine, M. Donné acknowledges that it would be necessary to bring forward cases in which symptoms of a disordered or saburral state of the stomach were attended by an alkaline state of the saliva. He has, however, met with only one case in which the treatment was so directed as to verify his diagnosis, and this case decidedly supports his views.

A curious case is detailed in support of his opinion, that acidity of the saliva depends on disease of the stomach. A girl in a fit of love and despair attempted to poison herself with a glass of *eau de javelle.* Vomiting ensued, the tongue became red and dry, there was little pain in the epigastric region; but the saliva was very acid. As she recovered, the acidity disappeared, the saliva became neutral, and when the cure was completed it was perfectly alkaline.

M. Donné alludes to many other cases in support of his views. When the disease is unaccompanied by gastric inflammation, the saliva remains alkaline; but very frequently diseases, the primary seat of which is at a distance from the stomach, are complicated with gastric symptoms, and then the saliva is invariably affected. To several cases of this kind M. Donné alludes.—*Edinburgh Med. and Surg. Journal, October,* 1835; *and Archives Générales, May and June,* 1835.

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13. *Cessation of Pulsation in several Large Arteries of the Upper and Lower Extremities.*—The case of this, the most remarkable of the kind on record, is detailed in our cotemporary the *Med. Chiurg. Rev.* for April last.

A young female, aged 22, of healthy parents, had had a severe attack of pneumonia about three years ago, under Mr. Crisp's care. Subsequently she was in service at Hackney, where she had been exposed to cold, and never considered herself as quite well after the pneumonia. She had head-aches, and occasionally fits of hysteria.

Jan. 31st, 1835. She came under the reporter's care, complaining of pain in her legs and arms, with rigors followed by febrile action. Pulse small and 90 in number—bowels confined—tongue furred—pain in the epigastrum—menses regular. Aperients and febrifuges. These lessened the epigastric pains, but those of the lower extremities continued. On the 3d of February, Mr. Crisp was sent for, on account of severe pain in the stomach, with vomiting. The pain had left the lower extremities. She was bled to eight ounces, with relief. 4th. The pains returned to the extremities, and ceased in the stomach. 5th. Hands and arms cold, with tingling sensation in the fingers. *No pulse at either wrist.* Heart and carotids acting strongly. On the 9th she was examined. Pulsation ceased about an inch below each clavicle—dorsal arteries of the feet beating forcibly at 90. 11th. The integuments of the right arm extremely painful. Dr. Whiting visited her, and found pain and tenderness, on pressure, along the main arteries of the arms. Ordered leeches below the right clavicle, and to have calomel and antimony.

13th. *No pulsation* could be felt in the dorsal arteries of the left foot, and indistinct in the popliteal. A thrilling sensation in the carotids, and *bruit de soufflet* over the heart. 15th. A slight vibratory movement felt in the radial artery of the left arm. 16th. Pain of the left leg severe. 18th. No pulsation in either of the arms—ceases about three inches below Poupart's ligament in the left thigh. The foot and fore-part of the leg of a purple colour—tips of toes cold—profuse perspiration over every part of the body. 22nd. *No pulsation in any artery of the extremities.* The toes and sole of the left foot black. March 6th. Since last report the pain has become excessive—very little sleep—pain in the region of the heart—bruit de soufflet—little and great toe of *right* foot black and painful. These were removed on the 8th March. We need not pursue the details of this curious case. On the fifth of October the left leg was removed below the knee. On slacking the tourniquet, there was very little bleeding from the large arteries—"*the blood not coming per saltum.*" The smaller arteries bled freely, and it was necessary to take up nine or ten of them. The leg was examined with great care. The large arteries were slit up, "but no trace of disease could be found in them." "They appeared to be smaller than natural."

We examined this young woman on the 21st December, in company with Mr. Crisp and Mr. Hooper, and noted the following particulars.

The stump is nearly healed. The temperature of all the extremities is considerably below par. The left arm has the highest temperature. In it there is a very faint pulsation of the radial artery. In none of the other extremities could we detect any action of arteries by the finger or the stethoscope. The subclavian of the *right* side presented the loudest *bruit de soufflet* we ever remember to have heard. The same in the right carotid. In the right axilla no pulsation could be felt or heard. The *left* subclavian gave out considerable *bruit de soufflet*, but less loud than on the opposite side. In the left axilla, a faint pulsation could be heard by the stethoscope. The *bruit* in the *left* carotid was in proportion to that in the subclavian of that side. The action and sounds of the heart were perfectly normal. The muscular strength of the limbs corresponded with the temperature and state of the circulation. It was very weak in all the limbs, but strongest in the left arm, where some pulse was still perceptible.

Examples of an analogous kind are recorded by Dr. Parry in his work on the pulse, by Dr. Ferguson (*Med.Chirurg. Rev.* xix. p. 285.) RAMAZINI (*Morgagni*) &c.

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14. *Experiments with the blood of persons affected with cholera.* During the prevalence of cholera at Venice, in 1833, Dr. NAMIAS instituted some experiments to ascertain whether the blood of cholera patients possessed properties injurious to life. He took a portion of the blood from the heart of a patient dead from cholera, and through an incision in the skin he inserted it in the subcutaneous cellular tissue of a large rabbit. The animal seemed to suffer but little from the operation, but five days afterwards it became dejected, its evacuations were less solid, appearances of white dejections were observed on the ground, and the animal died on the 10th day. The blood in the heart was found black and grumous, but without any particular lesion of the organs. The blood of this rabbit introduced under the skin of another rabbit caused its death in 24 hours. Appearances were observed on the ground of white dejections and the same phenomena were discovered on dissection. These experiments were several times repeated with the same results. It remained to determine whether the blood of patients dead from other diseases would produce the same effects. To determine this question Dr. N. inserted the black, liquid, fœtid blood of a person dead from intestinal gangrene, under the skin of a rabbit, without affecting the health of the animal. A similar experiment with the blood of an individual who had died of aneurism gave the same result.—*Gaz. Méd. de Paris,* 2 July, 1836, and *Bulletino delle Scienze Mediche.*

MATERIA MEDICA AND PHARMACY.

15. *Formula for the internal administration of Iron.* By Meurer.—The following formula, though much recommended by chemists, has been little employed in medicine. It is an advantageous substitute for chalybeate waters, which are less efficacious than it, and much more expensive:—℞. Sulph. ferri chyrst. ʒss., sacch. alb. ʒiss., tere simul et divid. in chart. xii. ℞. Bicarb. sodæ ʒss., sacch. alb. ʒiss., tere simul et divid. in chart. xii. Dissolve one packet of each separately in water, mix, and let it be taken as an effervescing draught. The decomposition is as follows; 1st, carbonate of the protoxide of iron; 2nd, sulphate of soda; 3d, a little undecomposed carbonate of soda, the quantity of bicarbonate being more than sufficient for the decomposition of the sulphate of iron.—*Dublin Journal*, from *Summarium des Neuesten in der Heilkunde.*

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16. *Medical properties of the Tannate of Quinine and Cinchonin.*—In Hecker's Annals, December, 1834, is a Report by Dr. Otto, of the Transactions of the Swedish Medical Association. This Report contains whatever appeared to Dr. Otto new and important, among the rest the following; Dr. Ronander, the secretary of the association, recommends the tannate of quinine and cinchonin as the most active ingredients of Peruvian bark; he asserts that he has cured by their means several cases of obstinate ague, which had resisted the use of sulphate of quinine, and other powerful remedies; he has found these preparations also useful in typhus and other states of general weakness, and tendency to putrescence, where sulphate of quinine seemed to be ineffectual. These facts appear to prove, that although *tannin* is not properly speaking a febrifuge remedy, yet it contributes much to increase the efficacy of the febrifuge principles of bark, a conclusion long ago pointed out by Berzelius, who ascertained that the febrifuge powers of different species of cinchona do not depend merely on the quantity of quinine and cinchonin which they contain, but which is much influenced by the proportion of tannin that enters into their composition. The tannate of quinine is also a cheaper remedy than the sulphate.—*Dublin Journal*, Sept. 1836.

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17. Battley's *Liquor opii Sedativus and Liquor Cinchonæ.*—This preparation, which has been made according to a secret formula for many years, is said to be formed simply by *macerating opium in distilled water* for a given time at an equable and gentle temperature (that of the laboratory,) with free access of light and air. About a seventh part of alcohol is added at the end of the process, in order to preserve the liquor.

Mr. Battley's "*Liquor Cinchonæ*" is prepared by macerating seven pounds of coarsely-powdered bark in seven gallons of distilled water for 24 hours, straining, and evaporating, to a certain extent, in wedgwood dishes. About four ounces of spirit may be added to preserve the liquid. It is said to be a preparation equal to quinin: seven or eight drops are a sufficient dose.—*Lancet*, 16 *April*, 1836.

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18. *On Pharmaceutical Preparations.*—Dr. Robert D. Thomson exhibited to the Westminster Medical Society (March 26th, 1836) several specimens of vegetable concentrated extracts, which were prepared by careful attention to the nature of the elements which entered into their composition. He remarked, that in regard to extracts, it is an important object to reject all those parts which have no action upon the animal system. For example, in the *extract* of *conium*, the only constituents which can possess any remedial agency, are *extractive* or *tannic* acid (both of which names are applied to substances possessing identical properties), and the oxide of coneine. But tannic acid readily decomposes under particular circumstances, as by exposure to the air, when saturated with moisture, and is then converted into a different substance, *ulmine* or *ulmic* acid, possessing different properties. The principle *coneine*, in which the narcotic properties of the *conium maculatum* reside, is a colourless oil, but when exposed to the atmosphere, it is changed into a green resin, which imparts its colour to the extract. Hence a good green colour is a test of the genuine nature of this extract, if proceeding from the proper colouring matter, and hence a spurious extract is too often introduced into apothecaries' shops, which is coloured by means of salts of copper.

The specimens of this extract before the Society, possessed the green colour of the oxide of coneine in perfection, and after having been kept for two years, was as perfect as when first formed, and not a trace of copper could be detected by appropriate tests. It was double the strength of the common extract of the shops, a dose consisting of two grains and a half. The specimen of *extract* of *hyoscyamus*, also exhibited, had been preserved for a similar period, without being in the slightest degree impaired, either in appearance, chemical properties, or narcotic effects. Solubility is a test of the purity of this extract. Its dose is two grains and a half.

Dr. Thomson called the attention of the Society to a new preparation, the *kinate* of *quinin*, from the *cinchona cordifolia*, in which the quinin, instead of being in combination with sulphuric acid, as in the form in which that medicine is usually administered, is retained in union with its native acid, and presented in the same form in which it exists in bark. The aromatic and astringent principles of the bark are also retained in this preparation, so that it actually comprises in a concentrated form all the active principles of the bark. It is pale yellow, quite soluble in water, and in doses of five grains forms a more powerful remedial agent than sulphate of quinin. Dr. T. observed, that in favour of the employment of this remedy, he might state that in the course of his experience in China, he had found bark much more effective in the cure of intermittent fever than sulphate of quinin, showing that the astringent principles of bark possessed a powerful influence on the human constitution. The great objection, however, to the use of the bark, is its bulky form. This objection is remedied by the kinate of quinin, which, from numerous trials, has been proved to possess fully the properties of bark.—*Ib.*

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19. *Purgative without Nauseous Taste.*—The following preparation is said to possess a quality much desiderated in purgative medicines, it not being offensive to the taste. ℞. fol., sennæ ʒij., aq. font. f ℥viij. Infuse during ten or twelve hours in a covered vessel; then strain and make a cup of common coffee with this infusion, to which one-third milk is to be added. This purgative coffee may be taken without any disagreeable taste being perceptible. M. Baudelocque has experimented a number of times at the children's hospital, with this preparation, and it has constantly produced from two to six stools in the twenty-four hours, and does not occasion either griping, vomiting, or intestinal irritation.—*Bulletin de Thérapeutique*, 1835.

THERAPEUTICS.

20. *Acetate of Lead in Dothinenteritis.*—Dr. Nasse in an article in the *Medizinische Zeitung* (June and July, 1835,) states that he has advantageously employed the acetate of lead in fever accompanied with ulceration of the intestines, in seventeen cases, thirteen adults and four children. He administered it in doses of from a third to half a grain, repeated from three to six times a day. He combined it with carbonate of ammonia in eight patients who were very much debilitated. Dr. Spiritus had previously had recourse to the acetate of lead in fifty cases, with success; and the efficacy of the remedy has been extolled by Dr. Jung in a thesis entitled "*De Dothinenteritide, eamque plumbo acetico sanandi ratione.*"

We have ourselves employed the remedy in several cases, and we think with advantage, especially in one case of autumnal fever treated by us within a few weeks, and which was accompanied with profuse hæmorrhages from the bowels. We have given it in rather larger doses than Dr. Nasse; and sometimes combined it with small portions of blue mass, and occasionally opium. The remedy seems deserving of more extensive employment in intestinal irritations.

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21. *Deafness cured by Galvanic currents.* At a recent sitting of the Academy of Sciences, M. Magendie gave an account of a young Polish officer who, at the battle of Ostrolenka, in charging a battery which fired cannon shot, was struck down, though he received no bruise in any part of his body; he remained sense-